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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,870	02/20/2004	Weng-Chung Liao	BHT-3230-87	5128

7590 11/02/2005

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EXAMINER

CHU, JOHN S Y

ART UNIT	PAPER NUMBER
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1752

DATE MAILED: 11/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/781,870

Applicant(s)

LIAO ET AL.

Examiner

John S. Chu

Art Unit

1752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 is/are allowed.
- 6) ☒ Claim(s) 4-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This Office action is in response to the amendment received August 19, 2005.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 4-6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claimed invention is drawn to the method for high aspect ratio pattern transfer of negative photoresist applications, see below:

Claim 4. (Currently Amended) A method for high aspect ratio pattern transfer of negative photoresist application comprising the steps of:

(1) obtaining a moldboard ~~which is both being~~ pervious to light and ~~has having~~ a protruding-and-recessing figure ~~to form and forming~~ a masking layer by way of sputtering deposition of a masking material on said moldboard;

(2) after solidifying the masking layer, obtaining a substrate depositing negative photoresist on said substrate;

(3) covering said moldboard with said substrate that has said protruding-and-recessing figure for further processing Step and Flash from the said moldboard side;

(4) after finishing said Step and Flash process, removing said moldboard from said substrate; and

(5) with developer, washing unexposed portions of the thin film covered with said negative photoresist on said substrate to show the exposed portion whereby produces high aspect ratio pattern.

Claim 5. (Currently Amended) The method according to claim 4, wherein said exposed portion of said negative photoresist forms macromolecule polymerization or is cross-linked after flashing and said unexposed portion ~~can be~~ washed by an alkaline developer to form pattern needed.

Claim 4 is indefinite as to how the moldboard for can be previous to light if a masking layer is sputter deposited on the moldboard and there is no grinding step to remove the masking layer.

3. Claims 1-3 are allowed.

None of the prior art references disclose the claimed method wherein the mask is grinded after sputtering a masking layer on the moldboard. Here the photoresist is then developed with an aqueous developer, while not etched as recited in the prior art imprint processes.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. SREENIVASAN et al (2004/0008334) is cited to disclose imprint lithography with an optical lithography step. The reference lacks the claimed method of making the mask wherein a masking layer is coated on the mold and then grinded to form light pervious sections to allow the light to hit the photosensitive resin layer, see the drawing below:

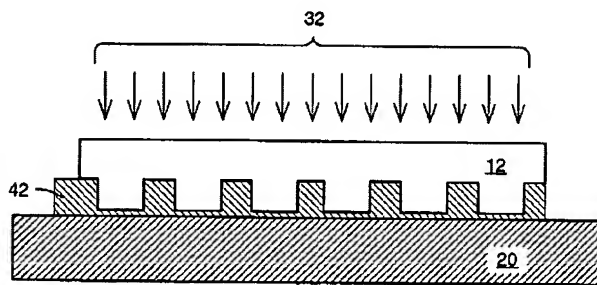


FIG. 23C

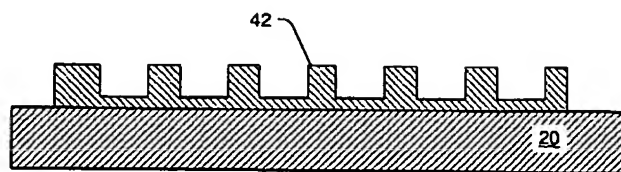


FIG. 23D

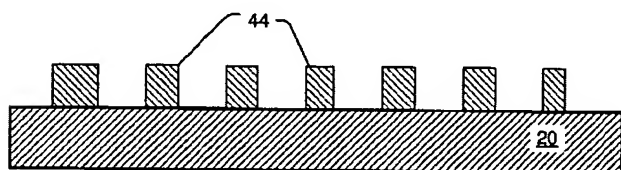


FIG. 23E

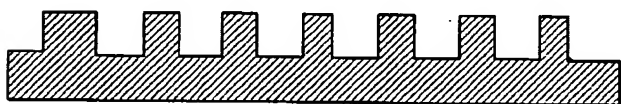


FIG. 23F

BAILEY et al (2004/0141163) likewise discloses an imprint lithography step, however lacks the claimed grinding step to form a mask as claimed, see the image below:

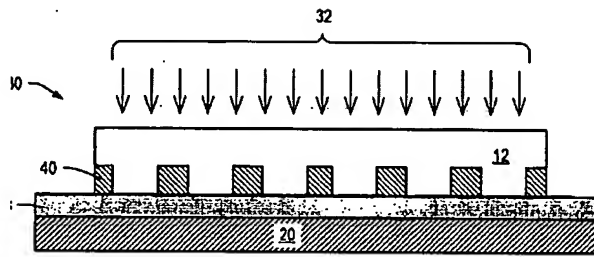


FIG. 2C

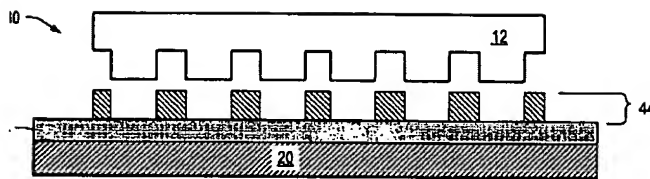


FIG. 2D

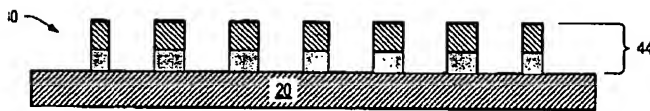


FIG. 2E

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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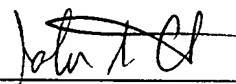
however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Chu whose telephone number is (571) 272-1329. The examiner can normally be reached on Monday - Friday from 9:30 am to 6:00 pm.

The fax phone number for the USPTO is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1700.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PMR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John S. Chu
Primary Examiner, Group 1700

J.Chu
October 30, 2005